FIG.1

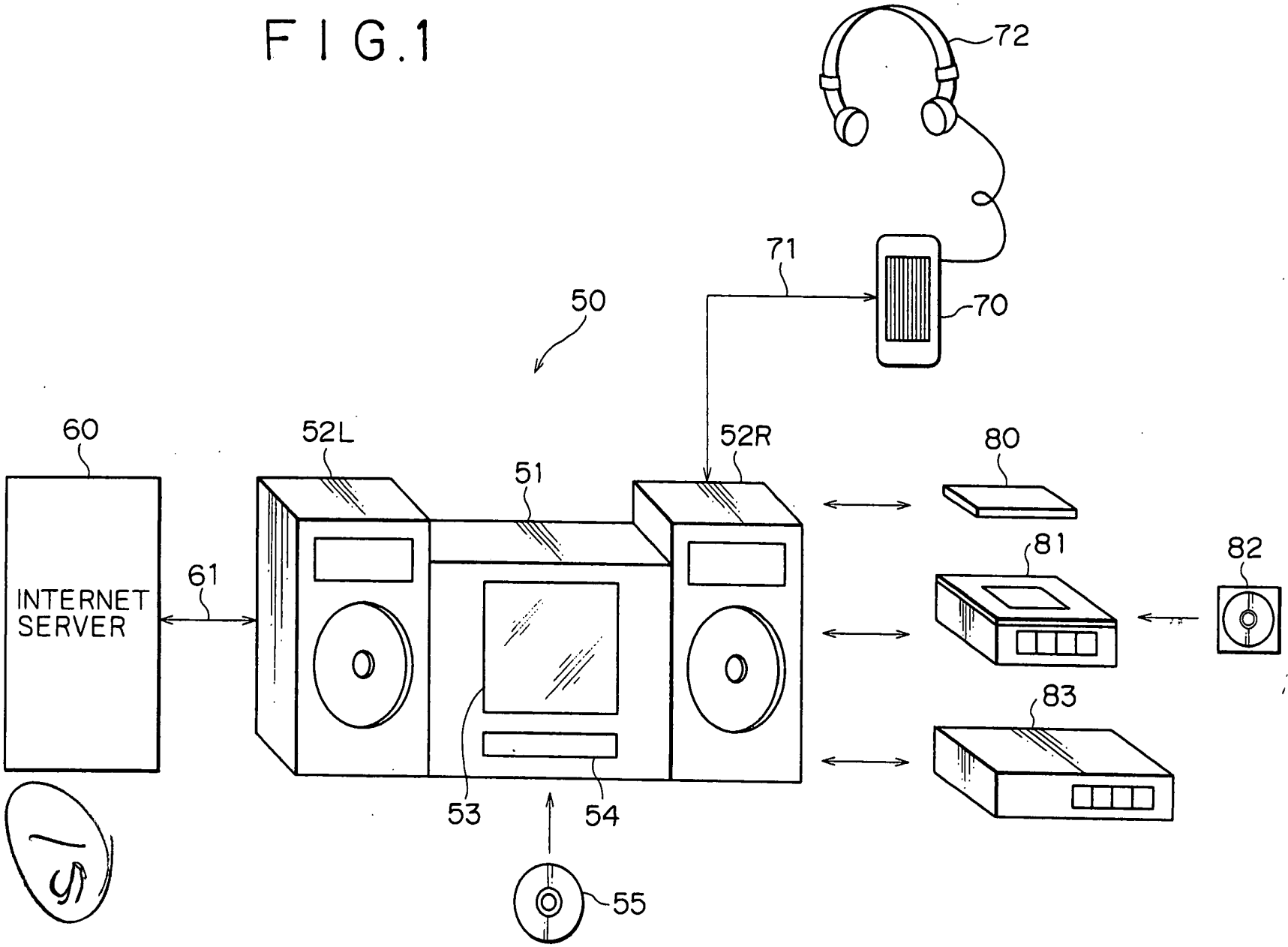


FIG. 2

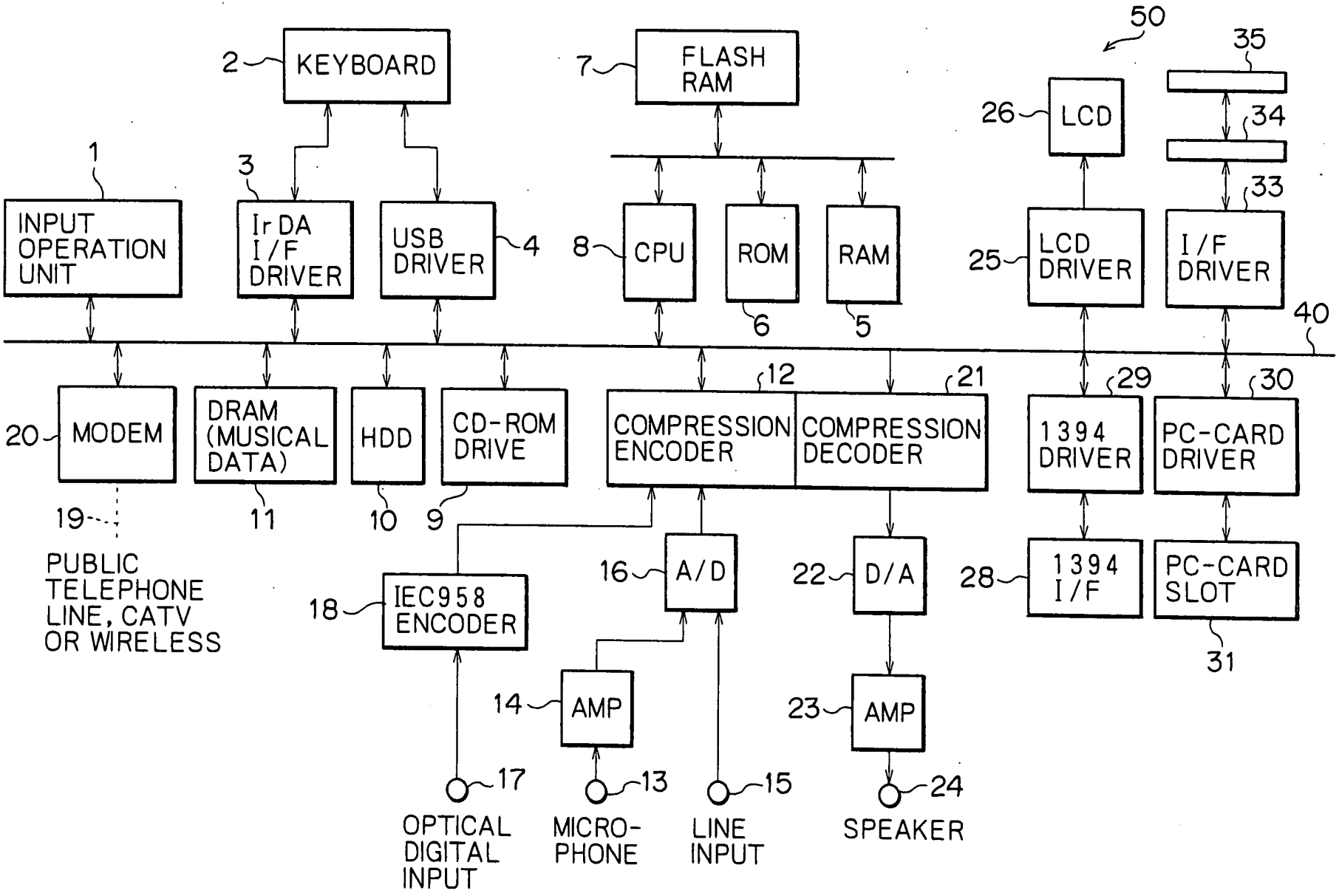

50
2
KEYBOARD
7
FLASH RAM
35
26
LCD
34
1
3
33
INPUT OPERATION UNIT
IrDA I/F DRIVER
USB DRIVER
4
8
CPU
ROM
RAM
25
LCD DRIVER
I/F DRIVER
40
6
5
12
21
29
30
20
MODEM
DRAM (MUSICAL DATA)
HDD
CD-ROM DRIVE
COMPRESSION ENCODER
COMPRESSION DECODER
1394 DRIVER
PC-CARD DRIVER
19
11
10
9
16
A/D
22
D/A
28
1394 I/F
PC-CARD SLOT
PUBLIC TELEPHONE LINE, CATV OR WIRELESS
18
IEC958 ENCODER
31
14
AMP
23
AMP
17
13
15
24
OPTICAL DIGITAL INPUT
MICRO-PHONE
LINE INPUT
SPEAKER

FIG.3

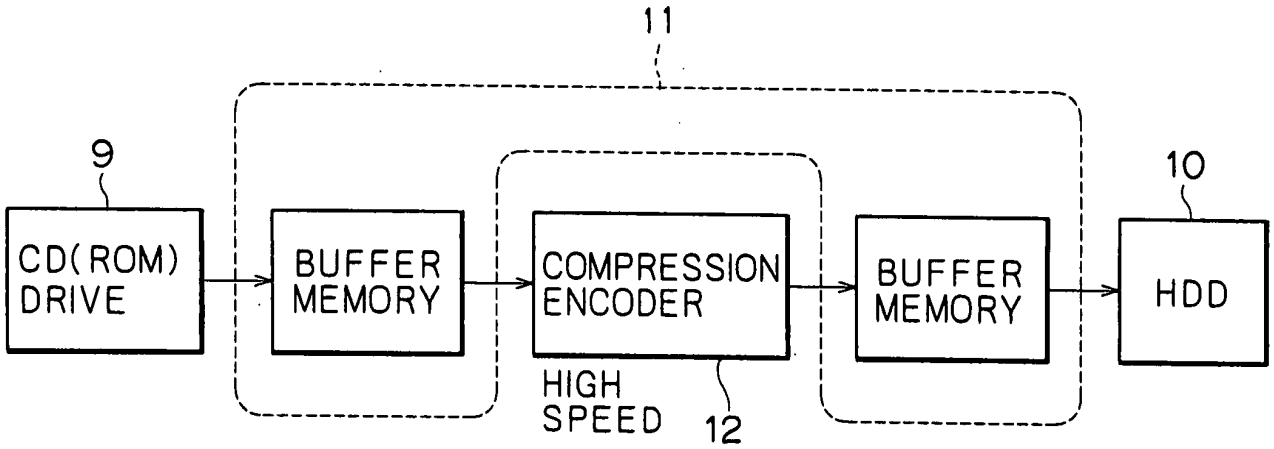

11
9
CD(ROM) DRIVE
BUFFER MEMORY
COMPRESSION ENCODER
HIGH SPEED
12
BUFFER MEMORY
10
HDD

FIG.4

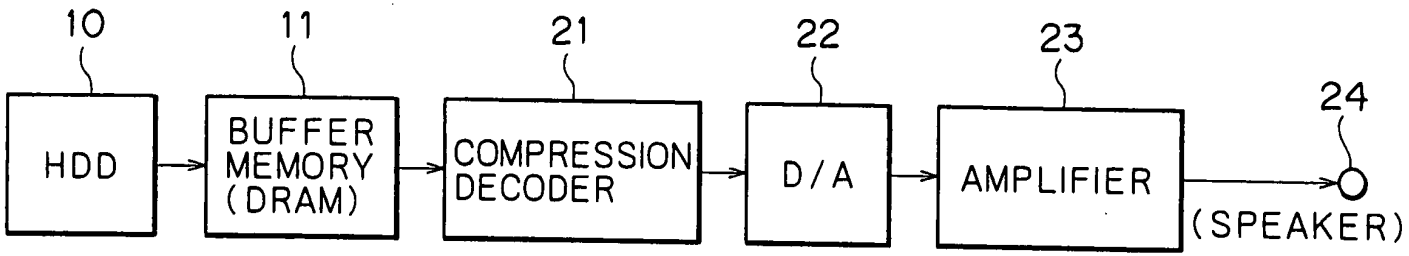

10
HDD
11
BUFFER MEMORY (DRAM)
21
COMPRESSION DECODER
22
D/A
23
AMPLIFIER
24
(SPEAKER)

FIG. 5

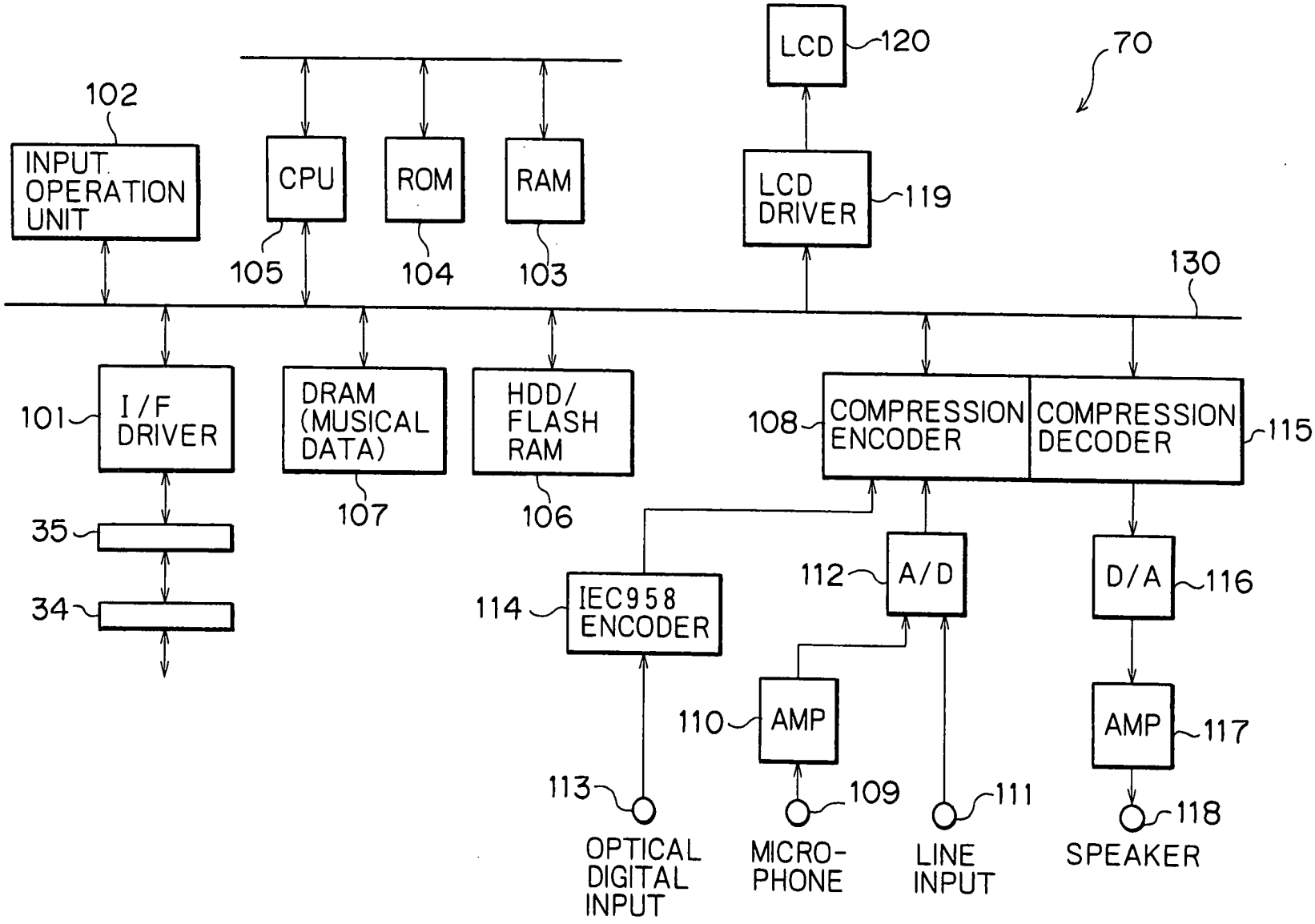

LCD
120
70
102
INPUT OPERATION UNIT
CPU
ROM
RAM
LCD DRIVER
119
105
104
103
130
101
I/F DRIVER
DRAM (MUSICAL DATA)
HDD/ FLASH RAM
108
COMPRESSION ENCODER
COMPRESSION DECODER
115
35
34
107
106
112
A/D
D/A
116
114
IEC958 ENCODER
110
AMP
AMP
117
113
109
111
118
OPTICAL DIGITAL INPUT
MICRO-PHONE
LINE INPUT
SPEAKER

FIG.6

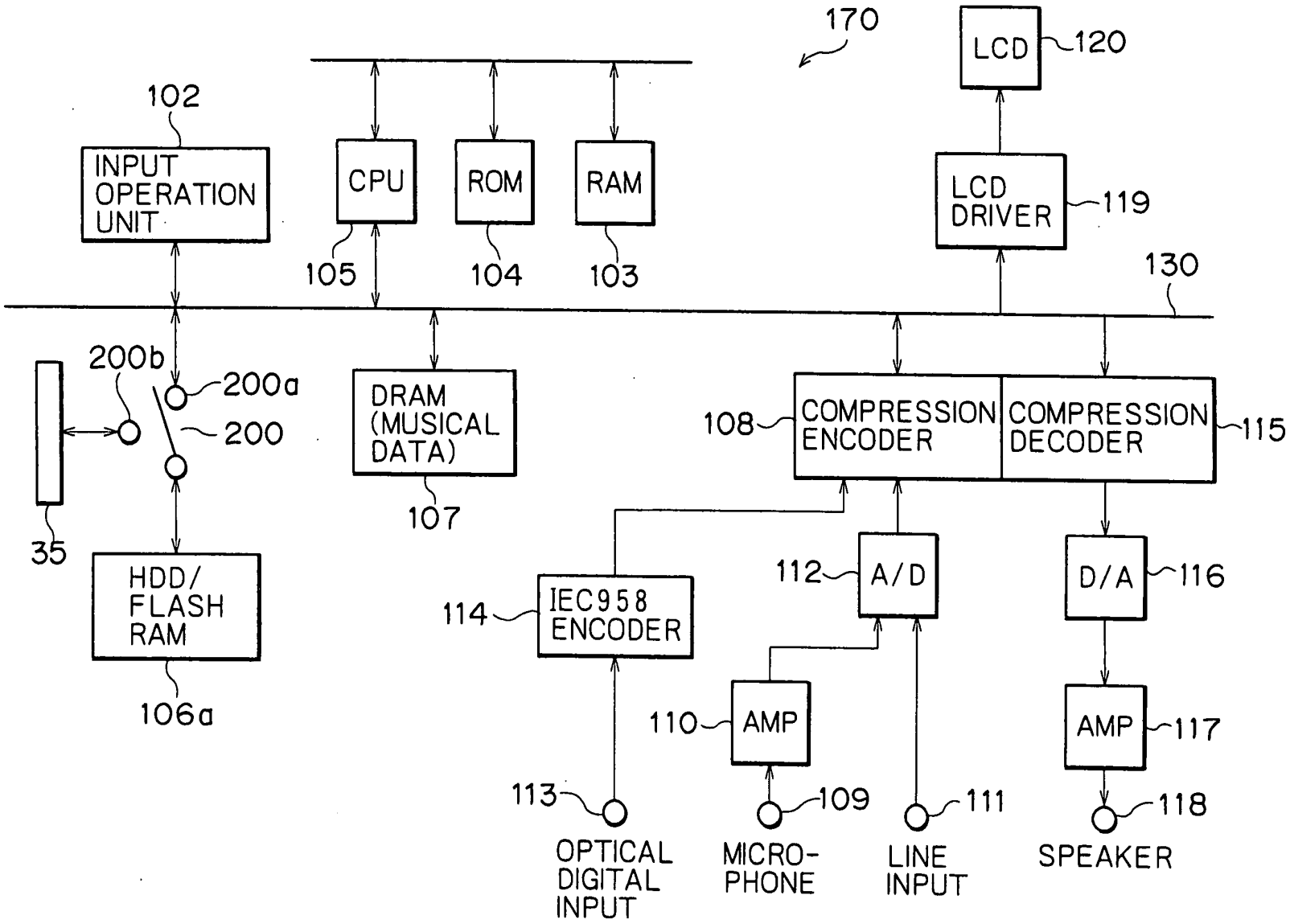

170
LCD
120
102
INPUT OPERATION UNIT
CPU
ROM
RAM
LCD DRIVER
119
105
104
103
130
200b
200a
200
DRAM (MUSICAL DATA)
108
COMPRESSION ENCODER
COMPRESSION DECODER
115
35
107
HDD/ FLASH RAM
112
A/D
D/A
116
114
IEC958 ENCODER
106a
110
AMP
AMP
117
113
109
111
118
OPTICAL DIGITAL INPUT
MICRO-PHONE
LINE INPUT
SPEAKER

FIG. 7

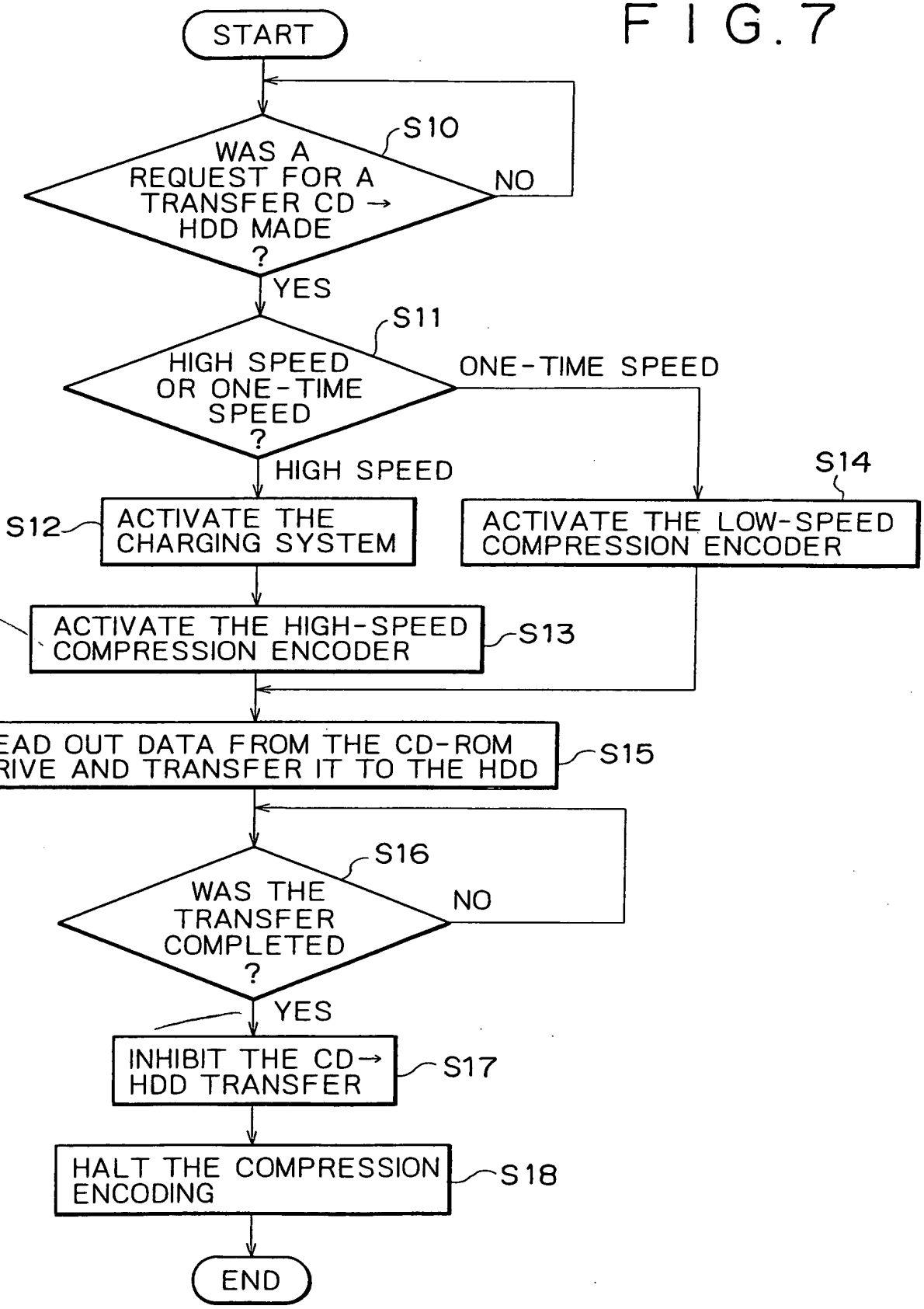

START
S10
WAS A REQUEST FOR A TRANSFER CD → HDD MADE ?
NO
YES
S11
HIGH SPEED OR ONE-TIME SPEED ?
ONE-TIME SPEED
HIGH SPEED
S12
ACTIVATE THE CHARGING SYSTEM
S14
ACTIVATE THE LOW-SPEED COMPRESSION ENCODER
ACTIVATE THE HIGH-SPEED COMPRESSION ENCODER
S13
READ OUT DATA FROM THE CD-ROM DRIVE AND TRANSFER IT TO THE HDD
S15
S16
WAS THE TRANSFER COMPLETED ?
NO
YES
INHIBIT THE CD→ HDD TRANSFER
S17
HALT THE COMPRESSION ENCODING
S18
END

FIG.8A

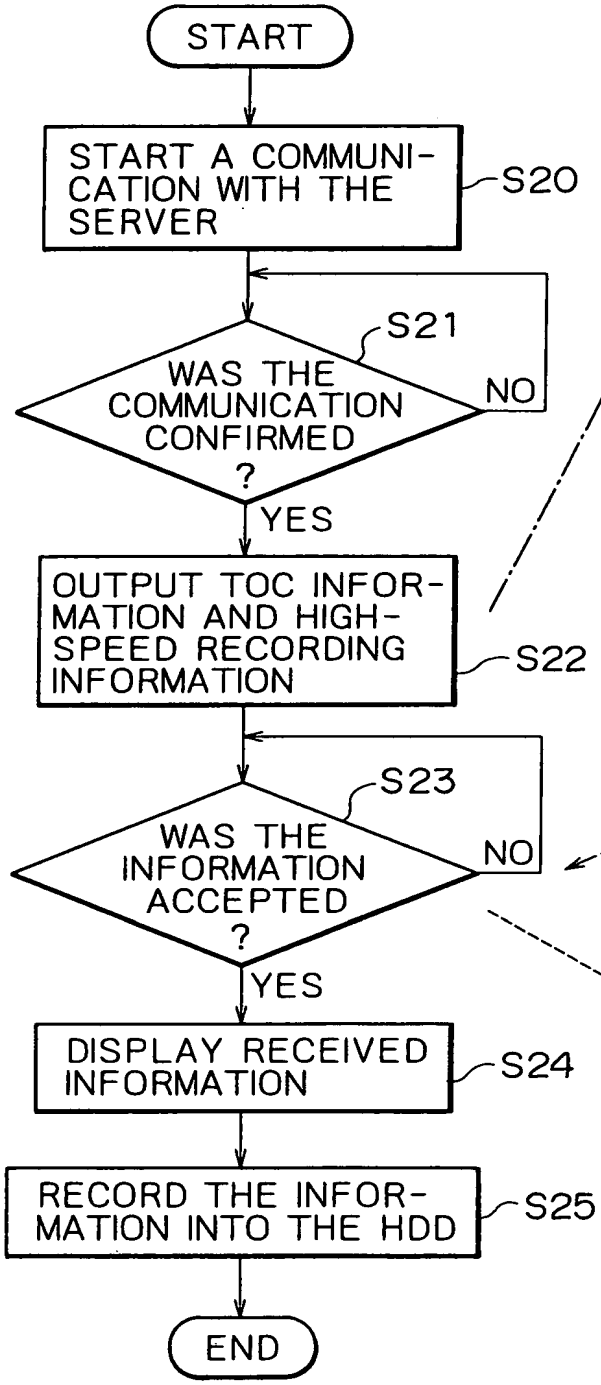

START
START A COMMUNICATION WITH THE SERVER
S20
WAS THE COMMUNICATION CONFIRMED ?
S21
NO
YES
OUTPUT TOC INFORMATION AND HIGH-SPEED RECORDING INFORMATION
S22
WAS THE INFORMATION ACCEPTED ?
S23
NO
YES
DISPLAY RECEIVED INFORMATION
S24
RECORD THE INFORMATION INTO THE HDD
S25
END

FIG.8B

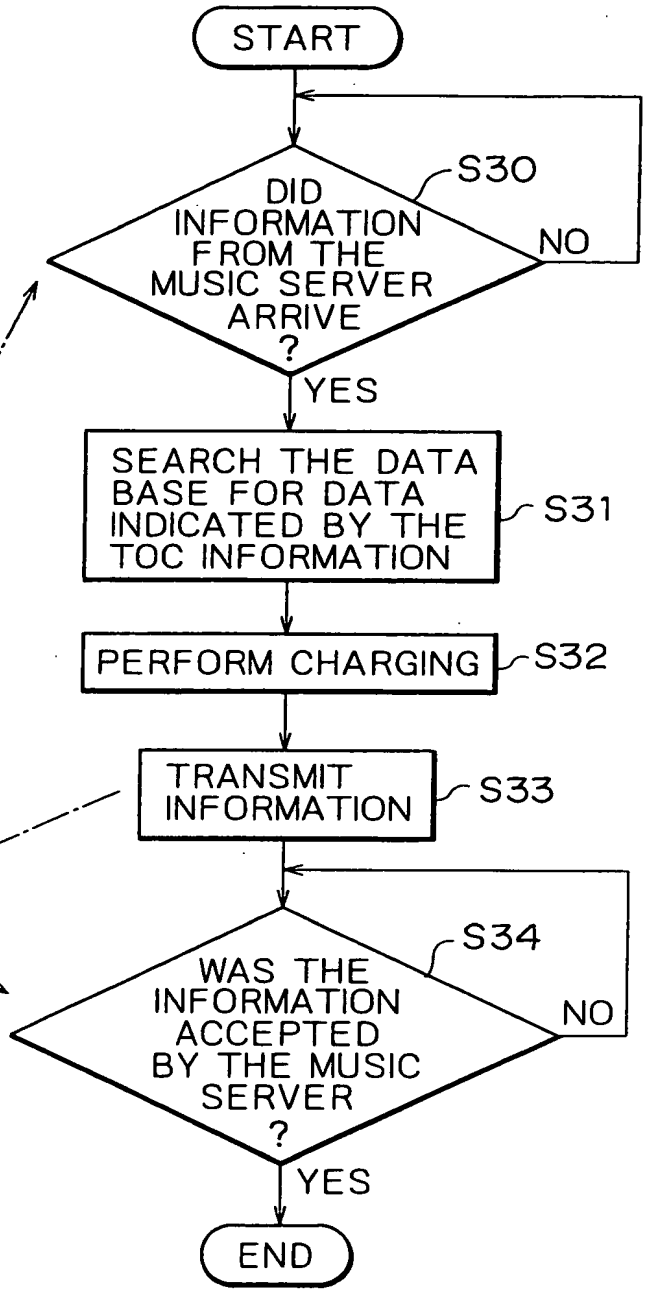

START
DID INFORMATION FROM THE MUSIC SERVER ARRIVE ?
S30
NO
YES
SEARCH THE DATA BASE FOR DATA INDICATED BY THE TOC INFORMATION
S31
PERFORM CHARGING
S32
TRANSMIT INFORMATION
S33
WAS THE INFORMATION ACCEPTED BY THE MUSIC SERVER ?
S34
NO
YES
END

FIG.9

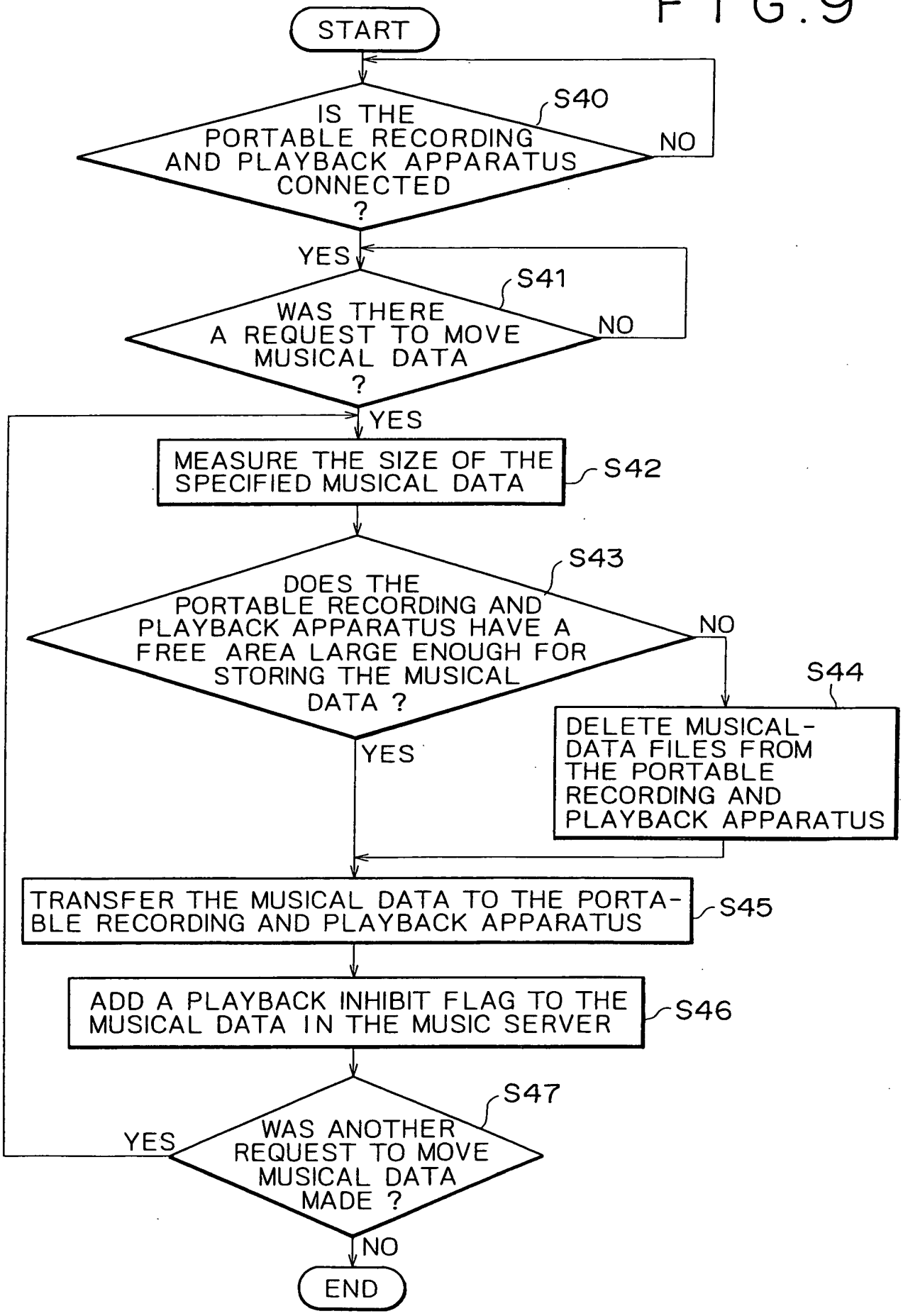

START
IS THE PORTABLE RECORDING AND PLAYBACK APPARATUS CONNECTED ?
S40
NO
YES
WAS THERE A REQUEST TO MOVE MUSICAL DATA ?
S41
NO
YES
MEASURE THE SIZE OF THE SPECIFIED MUSICAL DATA
S42
DOES THE PORTABLE RECORDING AND PLAYBACK APPARATUS HAVE A FREE AREA LARGE ENOUGH FOR STORING THE MUSICAL DATA ?
S43
NO
YES
DELETE MUSICAL-DATA FILES FROM THE PORTABLE RECORDING AND PLAYBACK APPARATUS
S44
TRANSFER THE MUSICAL DATA TO THE PORTABLE RECORDING AND PLAYBACK APPARATUS
S45
ADD A PLAYBACK INHIBIT FLAG TO THE MUSICAL DATA IN THE MUSIC SERVER
S46
WAS ANOTHER REQUEST TO MOVE MUSICAL DATA MADE ?
S47
YES
NO
END

FIG.10

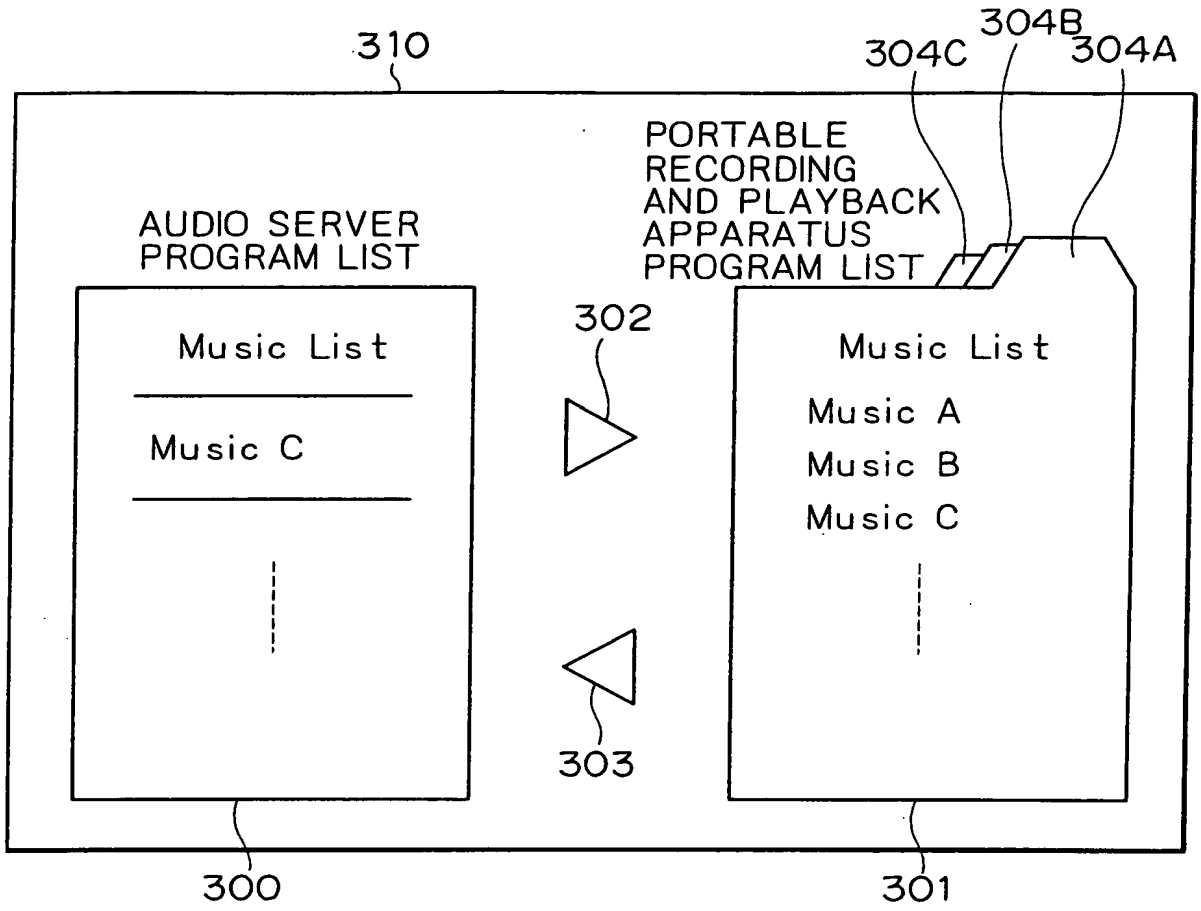

310
304C
304B
304A
PORTABLE RECORDING AND PLAYBACK APPARATUS PROGRAM LIST
AUDIO SERVER PROGRAM LIST
Music List
Music C
302
Music List
Music A
Music B
Music C
303
300
301

FIG.11

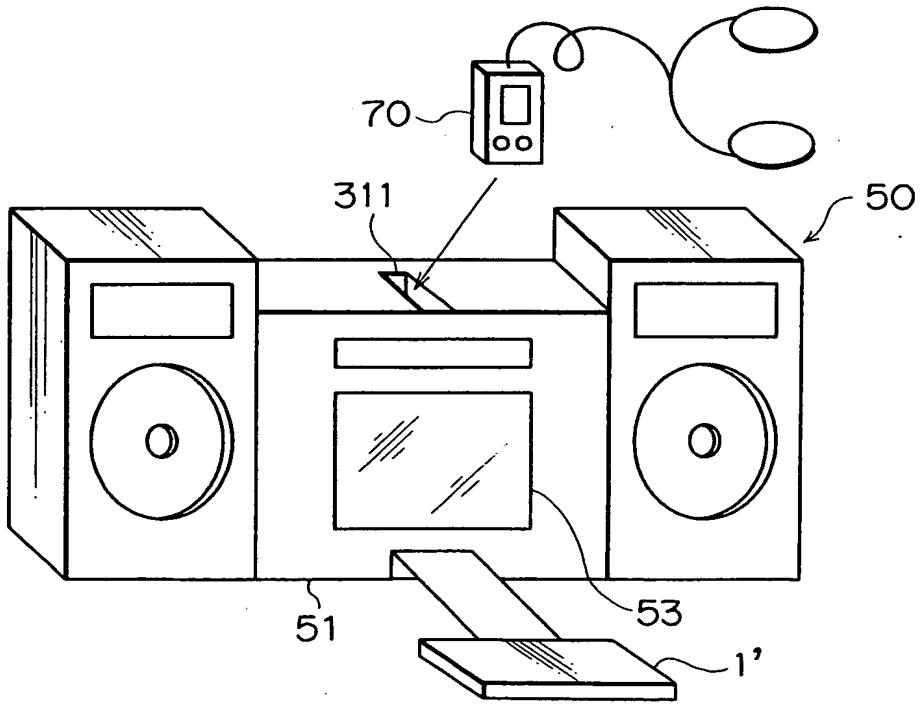

70
311
50
51
53
1'

FIG.12A

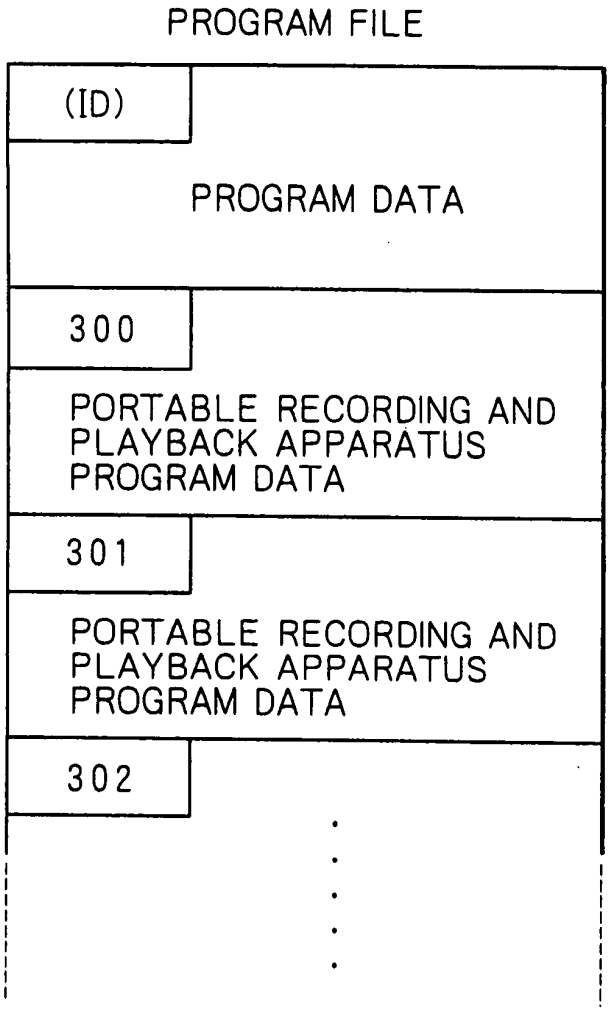



FIG.12B

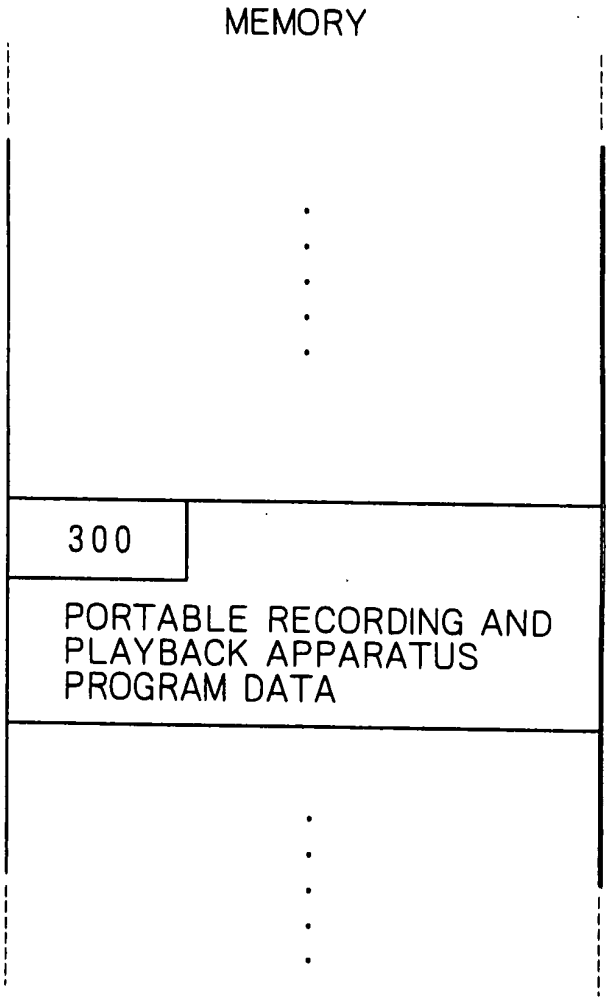
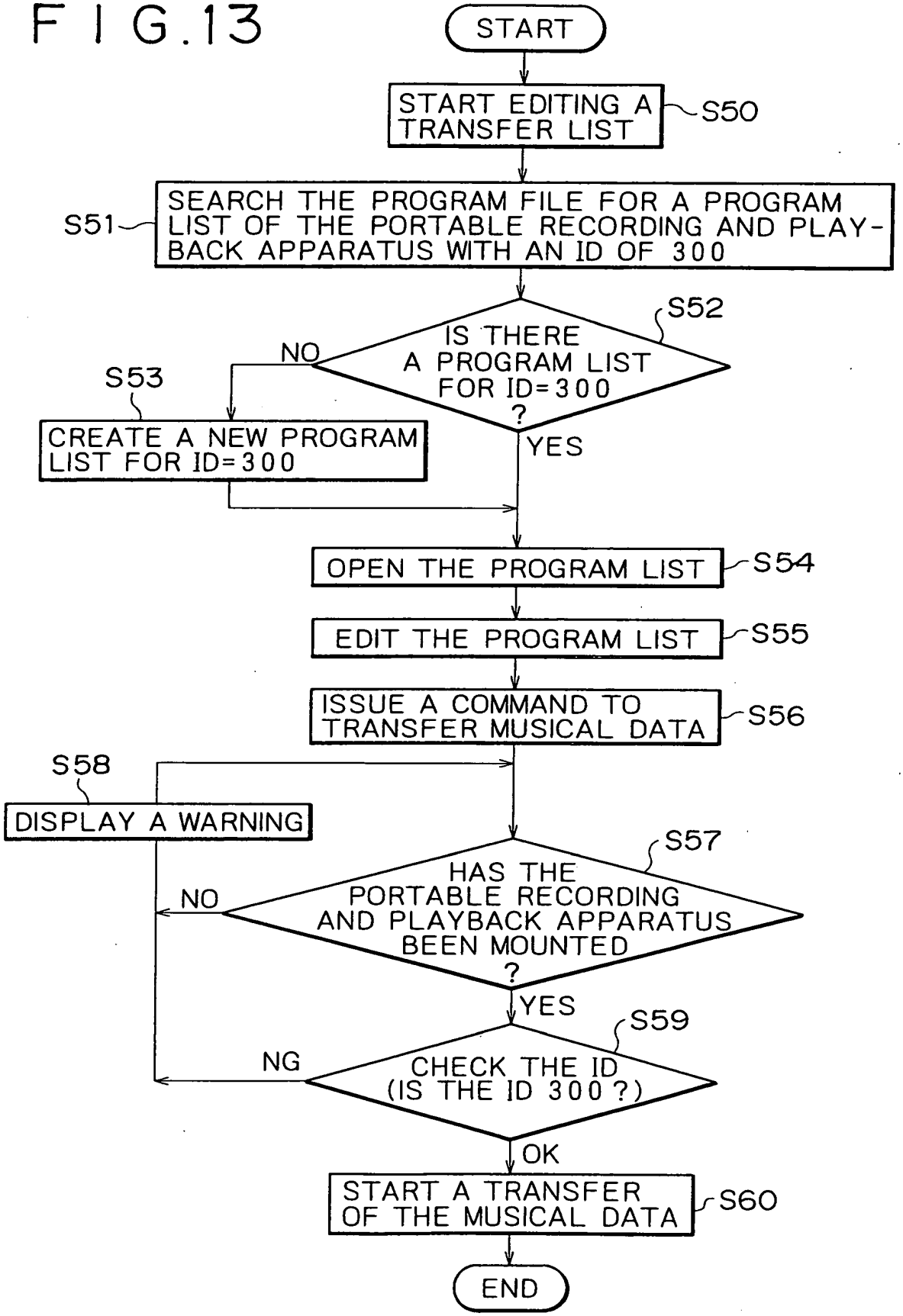


FIG.13


START
START EDITING A TRANSFER LIST
S50
SEARCH THE PROGRAM FILE FOR A PROGRAM LIST OF THE PORTABLE RECORDING AND PLAY-BACK APPARATUS WITH AN ID OF 300
S51
IS THERE A PROGRAM LIST FOR ID=300 ?
S52
NO
YES
S53
CREATE A NEW PROGRAM LIST FOR ID=300
OPEN THE PROGRAM LIST
S54
EDIT THE PROGRAM LIST
S55
ISSUE A COMMAND TO TRANSFER MUSICAL DATA
S56
S58
DISPLAY A WARNING
HAS THE PORTABLE RECORDING AND PLAYBACK APPARATUS BEEN MOUNTED ?
S57
NO
YES
CHECK THE ID (IS THE ID 300 ?)
S59
NG
OK
START A TRANSFER OF THE MUSICAL DATA
S60
END